Bias and Accuracy in Intimate Relationships:

Are people with low self-esteem adrift from relationship reality?

by

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Contents

Abstract 1

General Introduction 2

Murray's Dependency Regulation Model 3

Reflected Appraisals and Partner Perceptions Following a Threat or Boost to Self-Perceptions 4

Mechanisms Affecting Responses to Self-Threats 6

The Sociometer – Self-Esteem as an Interpersonal Gauge 8

Ideal Standards Model 11

Bias and Accuracy 12

Self-Esteem and Bias in Relationship Perceptions 14

Murray's Approach to Accuracy 15

Partner Effects 16

Bias, Accuracy and Relationship Satisfaction 17

Self-Esteem and Accuracy 19

Self-Esteem and Depression 20

Depressive Realism 21

The Current Research 21

Study 1

Introduction 23

Method 27

Participants 27

Materials 27

Procedure 29

Results 30

Bias in Partner Judgements 30

Accuracy of Partner Perceptions 33

Accuracy and Depression 35

Discussion 37

Study 2

Introduction 40

Method 43

Participants 43

Materials 43

Procedure 46

Results 48

Analytic Strategy 48

Manipulation Check 49

Reflected Appraisals 49

Partner Perceptions 50

Alternative Explanations – 1 50

Moderating Analysis – Self-Esteem 51

Alternative Explanations – 2 53

Discussion 54

General Discussion 57

The Dependency Regulation Model 58

Findings Supporting the Dependency Regulation Model 58

Findings Inconsistent with the Dependency Regulation Model 58

Findings Suggesting the Dependency Regulation Model Requires Elaboration 60
Summary 60
Sociometer Theory 61
Findings Supporting Sociometer Theory 61
Findings Suggesting Sociometer Theory Requires Elaboration 62
Summary 64
Ideal Standards Model 64
Findings Supporting the Ideal Standards Model 64
Findings Suggesting the Ideal Standards Model Requires Elaboration 66
Summary 66
Limitations and Caveats 67
Conclusion 67
References 69
Appendix A 74

Tables and Figures

Tables

Table 1 Examples of Different Combinations of Bias and Accuracy 13

Table 2 Means and Standards Deviations of Major Variables for Couples (Study 1) 30

Table 3 Relationship Between Bias and Depression: Correlations 32

Table 4 Accuracy of Partner Perceptions 33

Table 5 Accuracy of Partner Perceptions Controlling for Assumed Similarity and Positivity 34

Table 6 Accuracy of Partner Perceptions as a Function of Depression: Correlations Between Ratings of Partner and Partner's Self Ratings 36

Table 7 Means and Standard Deviations of Major Variables (Study 2) 48

Figures

Figure 1 Effect of Manipulating Self-Perceptions on Major Variables 52

Abstract

Research by S.L. Murray and colleagues (e.g., Murray, Holmes, MacDonald, & Ellsworth, 1998) on why people with low self-esteem have poor quality intimate relationships was replicated and extended in two studies. In Study 1, bias and accuracy in partner judgements was investigated, including whether bias and accuracy are related to depression. In Study 2, self-perceptions were manipulated and the effect on reflected appraisals and partner perceptions was examined. These two studies extend Murray et al.'s research in three main ways. First, a careful distinction was made between bias and accuracy, and each construct measured separately. Second, three categories of perceptions were measured which are centrally important in intimate relationships (Warmth/Loyalty, Vitality/Attractiveness, and Status/Resources) (Fletcher, Simpson, Thomas, & Giles, 1999). Third, whether Murray et al.'s Dependency Regulation Model operates in a domain-specific or global fashion was investigated.

As predicted, participants were positively biased but relatively accurate in judging their partners (Study 1). In Study 2, as predicted, people with low self-esteem (but not those with high self-esteem) reported less positive self-perceptions and reflected appraisals when their self-perceptions were threatened than when they were boosted. This effect occurred in the threatened domain only, as predicted. However, against predictions, people with low self-esteem did not alter their partner perceptions more than those with high self-esteem.

Introduction

People with low self-esteem doubt that they are worthy of love (Rosenberg, 1965). Consistent with this expectation of rejection, people with low self-esteem have low quality intimate relationships (Fincham & Bradbury, 1993; Karney & Bradbury, 1997), and face an increased probability of their relationships dissolving (Hendrick, Hendrick, & Adler, 1988; Kelly & Conley, 1987). Yet people with low self-esteem are generally perceived by partners significantly more positively than they perceive themselves (Murray, Holmes, & Griffin, 2000). This finding raises the question of why their relationships frequently fail. We know that, unfortunately, people with low self-esteem fail to incorporate their partners' generous perceptions into their own perceptions (Murray, Holmes, & Griffin). Moreover, people with low self-esteem, but not people with high self-esteem, underestimate how much their partner loves them and how committed their partner is to the relationship (Murray, Holmes, Griffin, Bellavia, & Rose, 2001). In summary, people with low self-esteem are plagued by worries and insecurities about whether their partner loves them and will stay with them. This research asks whether their concerns are completely unwarranted, or whether they are based on a grain (or more) of truth?

To introduce the current research, I will first discuss Murray et al.'s (1998) Dependency Regulation Model. According to this model, self-esteem (in part) determines reflected appraisals, and in turn, reflected appraisals partially determine perceptions of partner. Reflected appraisals are defined as how Partner A believes Partner B perceives Partner A. Next, I will discuss Sociometer Theory (Leary, Tambor, Terdal, & Downs, 1995) which posits that reflected and actual appraisals determine self-esteem. Third, I will discuss Fletcher et al.'s (1999) Ideal Standards Model which contends that three categories of qualities are centrally important in

mate selection processes (Warmth/Loyalty, Vitality/Attractiveness, and Status/Resources). Although Fletcher et al.'s model was originally developed in reference to ideal standards, there is evidence that this model applies equally well to self-perceived mate value (Kollermann, 2003) and partner perceptions (Fletcher, Simpson, & Thomas, 2000a). Fourth, I will define bias and accuracy, and will then discuss the relationships between bias, accuracy, self-esteem, and relationship satisfaction. Fifth, I will discuss the associations between self-esteem and depression in order to show how research on depression informs the current research on self-esteem. Finally, I will outline the two studies presented here. I will relate each study to the theories presented, and describe how the current research extends existing research.

Murray's Dependency Regulation Model

Murray et al. (1998; Murray, Holmes, et al., 2001; Murray, Holmes, & Griffin, 2000) found that reflected appraisals mediate the link between self-esteem and partner perceptions. Murray, Holmes, and Griffin argued that people regulate their attachment to their partners in such a way that individuals do not become fully committed to their relationships until their feel sure that their partner perceives them positively. Thus, the failure of people with low self-esteem to appreciate the extent of their partners' regard prevents them from sufficiently investing in their relationships (Murray, Holmes & Griffin).

Murray et al. (1998) proposed that an individual's perceptions of their partner reflect how valuable the relationship is to self. Because potentially losing a highly desirable partner is very threatening, people with low self-esteem typically report relatively negative partner perceptions. According to Murray et al., people with low

self-esteem (unconsciously) hold back their love and admiration for their partner to make the possibility of being rejected feel less threatening.

In contrast, since people with high self-esteem have very positive reflected appraisals, their partner becomes a resource for self-affirmation, which in turn makes the relationship more important to self. Moreover, having an adoring partner makes the possibility of rejection unlikely and thus reduces the interpersonal risk of investing in the relationship. Consequently, people with higher self-esteem report more positive partner perceptions.

Reflected Appraisals and Partner Perceptions Following a Threat or Boost to Self-Perceptions

Initial support for the Dependency Regulation Model was provided by a series of experiments in which self-perceptions were temporarily altered. Murray et al. (1998) manipulated self-perceptions and examined the effect on reflected appraisals and partner perceptions. A variety of techniques were used to manipulate self-perceptions. In the first two studies, participants in the threat condition were asked to describe a time when they disappointed their partner. In the third study, participants completed a considerateness inventory which was biased to elicit scores that implied that participants were either inconsiderate (self-threat) or highly considerate (self-boost). In the final study, participants received highly positive (self-boost) or negative (self-threat) feedback on a purported measure of intelligence. Self and partner perceptions were assessed in terms of general interpersonal qualities only. Moreover, reflected appraisals were not measured in a content-specific fashion (e.g., How warm do you think your partner thinks you are?), but in a more global fashion (e.g., I am

confident that my partner will always want to look beyond my faults and see the best in me).

As predicted by the Dependency Regulation Model, Murray et al. (1998) found that threatening the self-perceptions of people with low self-esteem led them to report significantly less positive reflected appraisals than low self-esteem controls. Moreover, as predicted, people with low self-esteem in the self-threat condition reported less positive partner perceptions than low self-esteem controls. Surprisingly, the intended self-boost led people with low self-esteem to report even less positive reflected appraisals and partner perceptions than low self-esteem controls. That is, the self-boost and the self-threat both had the same effect on people who had low self-esteem initially.

In contrast, when the self-perceptions of people with high self-esteem were threatened, their optimism was unshakable. Compared with high self-esteem controls, those in the self-threat condition reported more positive reflected appraisals. They inferred that their newly inflated self views were shared by their partner. Moreover, boosting the self-perceptions of people with high self-esteem had the same effect as the threat to self; those in the threat condition reported more positive reflected appraisals than high self-esteem controls. For people with high self-esteem, partner perceptions were not significantly influenced by either the threat or boost to self, which was against predictions.[1] Murray et al. discussed (1998; Murray, Bellavia, Feeney, Holmes, & Rose, 2001) and partially tested (Murray, Bellavia, et al.) several mechanisms which may have produced these effects. I discuss these mechanisms next.

[1] Results based on Murray et al.'s meta-analysis of data from all four studies.

Mechanisms Affecting Responses to Self-Threats

People with low self-esteem have relatively negative, uncertain, and conflicted self-concepts (e.g. Baumeister, 1993, 1998; Baumgardner, 1990; J.D. Campbell, 1990; J.D. Campbell et al., 1996). Consequently, they are more likely than people with high self-esteem to perceive events as threatening their self-perceptions. Moreover, people with low self-esteem are especially likely to lower their self-perceptions in response to a threat to self because their self-concepts are fragile (Brown & Smart, 1991; Murray et al., 1998).

Murray, Bellavia, et al., (2001) proposed that self-esteem moderates the effects of threats to self because of two critical differences between people with low vs. high self-esteem. First, Murray et al. argued that people with low vs. high self-esteem respond differently to threats to self because, as discussed, people with low self-esteem do not realize how highly their partners actually regard them. Consequently, they feel less secure in their relationships than people with high self-esteem, and therefore cannot allow themselves to derive comfort from their relationships in the way people with high self-esteem can.

Second, Murray, Bellavia, et al. (2001) argued that people with low vs. high self-esteem differ in their dominant working models of acceptance. Working models are internal cognitive representations which summarize an individual's behavioural and emotional experiences. They comprise beliefs about the self and others, and predict an individual's beliefs about and expectations of their world (Fletcher, 2002). Conditional working models produce the expectation that the value others place on having relationships with self depends on self having many virtues and few faults. Unconditional working models produce the expectation that others will value self despite self's faults.

For people with low self-esteem, models of conditional acceptance are most readily accessible, whereas for people with high self-esteem models of unconditional acceptance are dominant (Baldwin & Sinclair, 1996; Downey & Feldman, 1996; Roberts, Gotlib, & Kassel, 1996). For example, when they were primed with failure-related words, people with low self-esteem recognized rejection-related words faster than acceptance-related words during a lexical decision making task (Baldwin & Sinclair, 1996, Studies 1 and 2). This effect was not observed in people with high self-esteem. In addition, Murray, Holmes, Bellavia, and Rose (2000 cited in Murray, Bellavia, et al., 2001) found that even people with low self-esteem who were highly satisfied with their relationships described their partner's acceptance as more conditional compared to people with high self-esteem.

Although the type of working model that is most accessible seems to depend on self-esteem, both conditional and unconditional models are available to everyone. For example, regardless of self-esteem, people associated failure with rejection and success with acceptance in a lexical decision making task when they were asked to imagine a conditionally accepting other, but not when they were asked to imagine an unconditionally accepting other (Baldwin & Sinclair, 1996, Study 3).

Due to the dominance of conditional working models in their interpersonal schema along with their fragile self-concepts, people with low self-esteem are more sensitive to signs of rejection than people with high self-esteem (Leary, 2001; Murray, Rose, Bellavia, Holmes, & Kusche, 2002). Heightened rejection sensitivity can create havoc in the intimate relationships of people with low self-esteem because they lack personal resources, and therefore rely heavily on their partners for reassurance (Murray et al.). For example, Murray et al. found that self-esteem moderated how people reacted to the possibility that their partner perceived a problem in the

relationship. People with low self-esteem overestimated the threat the problem posed to their relationship and saw the doubts they perceived their partner to have as a sign of their own low worth. Furthermore, in response to doubting their partner's affections, people with low self-esteem derogated their partner and distanced themselves from the relationship. In comparison, people with high self-esteem were much less likely to feel hurt and rejected by their partner, and even when they did feel distressed, they seemed to put affirming the relationship ahead of defensive self-protection; their partner perceptions did not become more negative compared to ratings made by high self-esteem controls.

In summary, because people with low self-esteem fail to recognize how positively their partner views them, and because they generally view acceptance as conditional, people with low self-esteem judge that any negative change in their own mate value could have catastrophic consequences for their relationship. In contrast, people with high self-esteem do not readily alter their self-perceptions. Moreover, when they experience self-doubt, people with high self-esteem typically anticipate that their potential faults will have little influence on how their partner perceives them because they believe that their partner thinks very positively of them and loves them unconditionally. Other researchers have also proposed an association between self-esteem and reflected appraisals but have suggested that the causal relationship is in the opposite direction. I now turn to consider the most important theory that argues and tests this proposition – Sociometer Theory.

The Sociometer - Self-Esteem as an Interpersonal Gauge

Murray et al.'s (1998) dependency regulation approach can be described as top-down in that global self-esteem determines reflected appraisals. However, the

causal dynamics involved in the relationships between self-perceptions, reflected appraisals, and partner perceptions are more complicated than in the postulated Dependency Regulation Model (as Murray and colleagues readily acknowledge, see Murray, Holmes, & Griffin, 2000). Leary et al. (1995) proposed a bottom-up mechanism whereby reflected and actual appraisals determine an individual's level of self-esteem.

According to Sociometer Theory, self-esteem functions as an interpersonal gauge which detects changes in how much other people value having relationships with self (Leary, 2001). Leary argued that the Sociometer operates continuously but that individuals are mostly unaware that they are monitoring others' behaviour. The Sociometer alerts the self through affective cues when a negative change in someone's feelings toward self is detected, promoting conscious appraisals of the situation and attempts to remedy it. That is, when negative evaluations are detected the individual is prompted to commence self-presentational efforts in order to demonstrate that s/he possess qualities that are valued by other people. Leary argues that the origins of the Sociometer lie in our evolutionary past when social acceptance was vital to an individual's survival.

Although Sociometer Theory predicts that both reflected and actual appraisals influence self-esteem, people are assumed to be relatively accurate in judging what others think of them (Leary, 2001). Leary argued that people with low self-esteem may tend to have sensitive Sociometers that are easily triggered. However, the focus of Sociometer Theory is predominantly on how others' actual appraisals of self affect self-esteem. Thus, accuracy and social reality constraints are ascribed much more importance in Sociometer Theory than in Murray et al.'s (1998) Dependency Regulation Model.

Sociometer Theory states that when an individual detects changes in their own relational value, their state self-esteem changes. A weakness of Sociometer Theory is that the links between state and trait self-esteem are not well explained. Indeed, state and trait self-esteem are treated as roughly equivalent in terms of Sociometer Theory (Leary, 2001). Leary argued that people with low trait self-esteem have had more negative interpersonal experiences compared to people with high trait self-esteem. He proposed that this history of interpersonal relating leads people with low vs. high self-esteem to differ in how they interpret and respond to social cues from their partners or other individuals. This causes people with low self-esteem to overestimate social threats, and experience large fluctuations in state self-esteem, which can disrupt remedial self-presentational efforts. However, the mechanisms which maintain these miscalibrations in people with low trait self-esteem are not clear.

Based on their oversensitivity to rejection and negatively biased reflected appraisals, Murray and colleagues argued that people with low self-esteem have "miscalibrated Sociometers" (e.g., Murray, et al., 2002, p. 572; Murray, Holmes, et al., 2001, p. 433). However, from this perspective people with high self-esteem presumably also possess miscalibrated Sociometers, a point which Murray et al. seemingly miss. Murray, Holmes, and Griffin's (1996a, 1996b, 2000) own evidence suggests that a) people are generally positively biased in their partner perceptions, and b) self-esteem is positively related to how favourably an individual perceives their partner. Thus, people with high self-esteem are (overall) the most positively biased. If negative bias is described as evidence for a miscalibrated Sociometer it is not obvious why positive bias should not be seen in this light. Moreover, it is not clear whether people with low self-esteem simply overestimate negative appraisals when there is some kernel of truth to their worries and insecurities (bias) or whether they also invent

negative appraisals where none exist (complete inaccuracy). A third model which may help clarify this issue is presented next – the Ideal Standards Model.

Ideal Standards Model

Most research on bias and accuracy in intimate relationships (including Murray et al.'s work) has focused on general interpersonal qualities which are relevant to mate selection or relationship evaluation. However, Fletcher et al.'s (1999) Ideal Standards Model proposes that three categories of perceptions are centrally important in mate selection and evaluation processes: Warmth/Loyalty, Vitality/Attractiveness, and Status/Resources. The types of general interpersonal qualities studied in bias and accuracy research thus far would generally be subsumed under the Warmth/Loyalty category. Critically, perceptions of Warmth/Loyalty are relatively subjective, internal, and ambiguous (e.g., kind, supportive, understanding). In comparison, perceptions of Vitality/Attractiveness and Status/Resources are much more objective (e.g., nice house or apartment) and are more closely tied to observable behaviour (e.g., good lover, adventurous). Thus, people are likely to be more accurate in judging their partner's Vitality/Attractiveness and Status/Resources compared with judgements of Warmth/Loyalty.

In the current research, the major variables were measured using adapted short form versions of Fletcher et al.'s (1999) Ideal Standards Scales. The Ideal Standards Scales were derived inductively. Individuals identified the qualities which their hypothetical "ideal" partner would possess, and factor analysis revealed a three factor structure. This three factor structure confirmed the authors' a priori predictions. Based on an evolutionary approach, Fletcher et al. argued that a potential mate should possess good genes and make a good potential parent because these are the critical

qualities for reproductive success (Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Simpson & Gangestad, 1992). Specifically, a vital and attractive partner is likely to possess good genes whereas a partner with status and resources is likely to both make a good parent and have good genes. Finally, a warm and loyal partner is likely to provide good parental and mate support.

Researchers have also studied partner judgements of qualities that are of relatively low importance in intimate relationship contexts (e.g., using Pelham and Swann's, 1989, Self-Attributes Questionnaire which includes items such as artistic and musical ability). People's (ideal) reflected appraisals differ depending on the relationship-relevance of the qualities they are asked to judge. Regardless of their self-esteem, people want to be perceived in a positively biased fashion for qualities of high relevance to their relationship with the perceiver, but desire unbiased appraisals for qualities of low relationship-relevance (Murray, Holmes, & Griffin, 2000; Swann, Bosson, & Pelham, 2002). Thus, it seems important to measure bias and accuracy in judgements of qualities which are important in intimate relationships. Another chronic problem in existing research is that bias and accuracy are systematically confounded. I shall expand on this point below.

Bias and Accuracy

Bias and accuracy are separate but related constructs which are commonly confounded in social psychology and relationship research (Fletcher, 2002; Kenny & Acitelli, 2001). Bias in partner ratings refers to the tendency for (groups of) perceivers to be either more positive or more negative relative to some criterion measure. In contrast, accuracy (at least one important variety) refers to how well a pattern of judgements matches the set of criteria which serves as the benchmark.

I will use an example to illustrate the difference between bias and accuracy. Consider Mary who rates herself a 4 for intelligence, a 5 for warmth and a 6 for beauty (see Table 1). These ratings constitute the criterion scores for computing both bias and accuracy – it is assumed in this example that they are accurate. If Bill's ratings of Mary exactly matched Mary's ratings of herself, Bill's perceptions would be both unbiased and completely accurate. If Bill produced the ratings in the second row of Table 1 he would be perfectly accurate in the sense that he is tracking Mary's own judgements; however, he is also positively biased (by two points overall). In contrast, if Bill were to rate Mary in the fashion shown in the third row, he would be unbiased (his overall level of positivity is identical to Mary's). However, Bill's perceptions are also inaccurate because his pattern of partner ratings diverges considerably from Mary's self-perceptions. Finally, if Bill rated Mary according to the fourth row he would be both positively biased and inaccurate. As can be seen, bias and accuracy are relatively independent constructs.

Table 1
Examples of Different Combinations of Bias and Accuracy

	Intelligence	Warmth	Beauty	Total of all ratings	Correlation
Mary's Self-Perceptions	4	5	6	15	
Bill's Perceptions of Mary					
High Accuracy, No Bias	4	5	6	15	1.0**
High Accuracy, Positive Bias	6	7	8	21	1.0**
Low Accuracy, No Bias	5	6	4	15	-0.5
Low Accuracy, Positive Bias	7	8	6	21	-0.5

†$p < .10$. * $p < .05$. ** $p < .01$.

Self-esteem and Bias in Relationship Perceptions

The link between self-esteem and bias in relationship perceptions depends on whether partner perceptions or reflected appraisals are at issue. Murray and colleagues found that people with lower self-esteem are more (negatively) biased in their reflected appraisals of interpersonal qualities (Murray, Holmes, & Griffin, 2000), perceptions of their partner's love, and perceptions of their partner's commitment to the relationship (Murray, Holmes, et al., 2001)**.** For example, Bill underestimates how positively Mary judges his warmth.

Although people with high self-esteem typically report unbiased reflected appraisals, they tend to be more positively biased in their partner perceptions than people with low self-esteem (Murray et al., 1996a, 1996b; Murray, Holmes, & Griffin, 2000). That is, people with high self-esteem generally perceive their partners more positively than their partners see themselves.

Since partner perceptions tend to be positively biased overall (Murray et al., 1996a, 1996b; Murray, Holmes, & Griffin, 2000), the finding that people with low self-esteem are negatively biased in their reflected appraisals does not necessarily mean that people with low self-esteem are unrealistic. If people with low self-esteem expect to be judged by partners in a relatively unbiased fashion, self's reflected appraisals will generally turn out to be negatively biased.

However, since self-perceptions tend to be positively biased overall (Taylor & Brown, 1988), the finding that people with high self-esteem judge their partners even more positively than their partners perceive themselves indicates that people with high self-esteem are particularly unrealistic.

Murray's Approach to Accuracy

Murray rarely discusses accuracy in her research. When accuracy is discussed, claims about accuracy are sometimes made based on analyses of bias, and the terms bias and accuracy are used somewhat interchangeably. For example, under a section entitled "Accuracy and Bias in the Perceptions of a Partner's Regard" Murray, Holmes, and Griffin (2000) claimed that "Low self-esteem individuals seriously underestimated just how positively their partners saw them. In contrast, high self-esteem individuals more accurately appreciated their partners' rosy regard." (p. 484). Both of these statements were based on data showing bias. Claims about accuracy cannot be justified based on the analyses presented.

The term "positive illusions" is used frequently in Murray's research to describe positive bias (e.g., Murray et al., 1996a, p. 79), and positive illusions are linked to greater concurrent satisfaction (1996a), increases in satisfaction (Murray et al., 1996b; Murray & Holmes, 1997), greater love and trust, less conflict, and lower rates of relationship dissolution (Murray & Holmes). The use of the word illusions in this context implies that inaccuracy is also associated with greater satisfaction. However, Murray et al. (e.g., 1996a; 1996b) generally use the term to refer to cases when assumed similarity effects remain significant after controlling for accuracy effects (actual similarity).[2]

Murray, Holmes, and Griffin's (2000) evidence suggests that reflected appraisals by self are (in part) based on how partner actually perceives self. Moreover, they find that how self is judged by partner is related to self's reported self-esteem. Unfortunately, Murray and her colleagues typically sweep these findings under the

[2] I use the term assumed similarity to refer to either a) self's assumption that partner perceives self the same way that self perceives self, or b) self's assumption that partner is similar to self.

carpet, and accuracy is treated almost solely as something to control for when testing for the presence of illusions.

There is substantial evidence that people's judgements are hooked into the reality of their relationships, including: a) negative relationship evaluations significantly predict eventual break-up, even over the long-term; b) relationship evaluations tend to be similar across couples; c) positive behaviour when discussing a relationship problem is quite strongly associated with satisfaction; and d) people respond to unexpected events in their relationships with scientist-like behaviour such as hypothesis testing (see Fletcher, 2002).

Partner Effects

Emphasizing the causal role of self-perceptions in determining reflected appraisals and partner perceptions, and giving limited attention to accuracy effects, ignores some of the important dynamics evident in Murray et al.'s own research. The importance of social reality constraints is particularly apparent when *partner effects* are considered. Partner effects comprise the effect or association that partner perceptions have on aspects of the other individual (controlling for within-subject associations). For example, Murray, Holmes, Dolderman, and Griffin (2000) found that Partner A's reflected appraisals were significantly positively related to Partner B's self-perceptions. Thus, when self's partner had less positive self-perceptions, self correctly assumed that their partner judged them relatively negatively. In the same study, Partner A's satisfaction was significantly positively related to Partner B's reflected appraisals. That is, self appeared to base their own relationship satisfaction (in part) on how secure their partner felt (i.e., the positivity of partner's reflected appraisals).

Other researchers have also found partner effects. For example, L. Campbell et al. (2001) found that participants' ratings of how well their partner matched their own ideal standards predicted *their partner's* happiness. This study provided the first evidence that individuals evaluate their partners and relationships based on how closely they match *their partner's* ideal standards, in addition to how well their partner meets their own ideal standards. If illusions dominated relationship processes, and accuracy was rare or unimportant, then such effects would be unlikely to emerge. Thus, accuracy in relationship perceptions should be investigated alongside bias. The current research examines both accuracy and bias.

Bias, Accuracy, and Relationship Satisfaction

While it seems plausible that seeing a partner in the best possible light (positive bias) promotes relationship satisfaction, it seems nonsensical (particularly from an evolutionary standpoint) that people routinely ignore social cues which offer potentially critical information about their partners and relationships. Thus, an evolutionary approach suggests that partner perceptions that are *both* positively biased and accurate should be the conditions most strongly associated with relationship satisfaction and longevity (recall that bias and accuracy can operate relatively independently of each other). Previous research has consistently shown that partner-serving bias (measured as Partner A perceiving Partner B more positively than Partner B perceives Partner B) is associated with greater relationship satisfaction (Murray et al., 1996a, 1996b) and a reduced likelihood of the relationship dissolving (Murray et al., 1996b).

The relationship between accuracy and satisfaction is more contentious. Two factors probably moderate this relationship – 1) the degree of relationship

commitment and 2) how threatening and stressful a situation the perceiver is in (e.g., Fletcher, 2002; Ickes & Simpson, 2001). It has been argued that these two factors probably influence the relationship between accuracy and satisfaction because they influence whether perceivers are predominantly motivated to assess reality accurately (truth-seeking mindset) or to perceive reality in a way that enhances levels of security and happiness (satisfaction-enhancing mindset) (e.g., Fletcher; Ickes & Simpson). Recent research has shown that experimentally inducing a truth-seeking mindset improves accuracy in predicting relationship dissolution (Gagne & Lydon, 2001). When perceivers are in a truth-seeking mindset, accuracy should be positively associated with satisfaction (Ickes & Simpson). However, when perceivers are in a satisfaction-enhancing mindset, accuracy may be negatively associated with satisfaction (Ickes & Simpson). I will explain why.

For people in more committed relationships (e.g., marriages) the costs of exiting the relationship are high. Thus, highly committed couples are generally more motivated to maintain their relationship satisfaction than to perceive reality accurately. They are more likely to (unconsciously) produce inaccurate perceptions in order to help maintain a rosy view of their partner and relationship. For example, in judging Bill's Warmth/Loyalty, Mary may minimise the significance of Bill forgetting her birthday and focus on Bill's close relationship with their children (Murray & Holmes, 1993, 1994). In contrast, Julie who has just begun dating Phil may interpret Phil's forgetting her birthday as a sign he is an uncaring swine, and Julie may reconsider the relationship.

Greater relationship commitment is not the only factor which increases satisfaction-enhancement motivations. In situations which pose a significant threat to the relationship (e.g., discussing a difficult problem), the motivational stance is likely

to move toward satisfaction enhancement and greater inaccuracy. For example, Simpson, Ickes, and Blackstone (1995) found that in the face of a relationship threat, satisfaction was negatively associated with accuracy as people tried to protect themselves from thoughts that their partner was attracted to a member of the opposite sex. When reality is very threatening, inaccurate perceptions help maintain relationship satisfaction. Since people with low self-esteem are generally less satisfied with their relationships (e.g., Murray et al., 1996a, 1996b), these findings have implications for how self-esteem and accuracy are likely to be related, a topic which I turn to next.

Self-Esteem and Accuracy

Two different literatures generate inconsistent hypotheses on the relationship between self-esteem and relationship-related accuracy. Thus, I am not predicting how accuracy will be related to self-esteem in the current research. One body of research suggests that self-esteem and accuracy will be positively associated (e.g., J.D. Campbell & Fehr, 1990). Since higher self-esteem is associated with better functioning (including higher quality relationships), it is plausible that high self-esteem should be associated with both positively biased partner perceptions and high levels of accuracy.

In contrast, the literature on depressive realism suggests that self-esteem will be negatively associated with relationship-related accuracy (e.g., Lewinsohn, Mischel, Chaplin, & Barton, 1980). In the current research, I used a well-known measure of self-esteem in Study 2, but a surrogate of self-esteem in Study 1, namely depression. I will outline the case for equating depression and self-esteem next.

Self-esteem and Depression

Self-esteem has been measured in a variety of ways. For example, Murray and colleagues typically use the Rosenberg Self-Esteem Inventory, a measure of global self-esteem, and/or the Interpersonal Qualities Scale which measures a type of mate self-esteem. In two recent studies, Watson, Suls, and Haig, (2002) examined the relationship between scores on the Rosenberg Self-Esteem Inventory (the most widely used measure of self-esteem) and various measures of depression. The results indicated strong negative correlations between depression and self-esteem (r = -0.82 in one study and r = -0.86 in another). Thus, research on the relationship between depression and accuracy offers clues about the possible relationship between self-esteem and accuracy.

Self-esteem is central to contemporary theories of depression. For example, Beck (1970) proposed that depression is caused and maintained by the negative cognitive triad referring to the tendency for people with depression to have negative perceptions of *themselves*, the world, and the future. Moreover, attributional style is a risk factor for depression (Sacks & Bugental, 1987). People who are depressed are more likely than people who are not depressed to attribute their perceived failures to causes that are stable, global, and *internal* (Sweeney, Anderson, & Bailey, 1986). Authors differ on whether low self-esteem is a cause or consequence of depression (see Tarlow & Haaga, 1996). However, feelings of worthlessness, a hallmark of low self-esteem (Rosenberg, 1965) form part of the diagnostic criteria for a Major Depressive Episode, and low self-esteem itself is one of the criteria for Dysthymic Disorder (American Psychiatric Association).

Depressive Realism

Based on the high (negative) correlation between self-esteem and depression, research on depressive realism can be used to derive hypotheses about the links between self-esteem and relationship-related accuracy. Depressive realism (or the sadder but wiser effect) refers to research showing that mildly depressed people are more accurate than non-depressed people (see Myers, 1994). Research on the relationship between depression (or self-esteem) and accuracy is problematic in that bias and accuracy are not always carefully defined and measured (e.g., Murray, Holmes, & Griffin, 2000). Consequently, there is debate about whether people with depression are more accurate or merely less positively biased (e.g., Koenig, Ragin, & Harrow, 1995). Study 1 of the current research will test whether people who are more depressed are more accurate (and less biased) in judging their partners.

The Current Research

This research involves two studies. In Study 1, 60 couples reported their self-perceptions, depression, partner perceptions, and how well their partner matched their own ideal standards. The major variables were measured using Fletcher et al.'s (1999) Ideal Standards Scales. Using couple-level data allowed me to investigate a) whether bias and accuracy vary depending on the types of qualities judged, and b) the relationship between depression and bias/accuracy.

In Study 2, participants' self-perceptions were manipulated, and the effect on reflected appraisals and partner perceptions was examined. Global self-esteem was investigated as a potential moderator. Once again, the major variables were measured using the Ideal Standards Scales which allowed domain specificity hypotheses to be investigated. A participant's self-perceptions were manipulated in one ideal standards

category only (either Vitality/Attractiveness or Status/Resources). The third ideal category, Warmth/Loyalty, was a control (non-manipulated) variable.

I predicted that participants would be both positively biased and generally accurate in their partner perceptions. I also predicted that higher levels of depression would be associated with producing less positively biased judgements of partners, and eliciting less positively biased appraisals from partners (Study 1). If confirmed, this pattern of results would suggest that people who have less positive self-perceptions or are more depressed correctly believe that their partners see them in a relatively negative fashion. These findings would be inconsistent with Murray et al.'s (e.g., 2002; Murray, Holmes, et al., 2001) position that people with low self-esteem have miscalibrated Sociometers. Finally, I predicted that accuracy would be more strongly associated with judgements of Vitality/Attractiveness and Status/Resources, than judgements of Warmth/Loyalty, because the qualities which comprise the first two categories are relatively objective and observable compared with Warmth/Loyalty.

In Study 2, I expected (based on Murray et al.'s 1998 Dependency Regulation Model) that people with lower self-esteem would be more negatively influenced by a threat to self. Specifically, I predicted that their self-perceptions, reflected appraisals, and partner perceptions would be less positive in the threat condition compared with the boost. However, in contrast to the Dependency Regulation Model which implicitly predicts global effects, I predicted that increased insecurity would be confined to the manipulated domain. That is, perceptions of Warmth/Loyalty (in self or partner) would not be influenced by the manipulation.

Study 1

For Study 1, data from an existing data set were analyzed. The sample comprised 60 couples. Each partner completed scales indexing their self-perceptions, partner perceptions, and ideal/partner perceptions consistency. Ideal/partner perceptions consistency refers to, for example, Mary's opinion of how well Bill matches her ideals.

First, this study investigated whether people were accurate in judging their partners. Accuracy was assessed in terms of the correlation between Partner A's perceptions of Partner B and Partner B's self-perceptions. It was predicted that people would be significantly accurate in judging their partner's Vitality/Attractiveness and Status/Resources, but that they would exhibit little accuracy in judging their partner's Warmth/Loyalty. Differences in accuracy across ideal categories were predicted because the Vitality/Attractiveness and Status/Resources scales measure qualities which are more objective and observable than the qualities measured by the Warmth/Loyalty scale. If partner perceptions are significantly accurate (using this criteria) then this would indicate that people with more positive self-perceptions are perceived more favourably by their partners. To put it another way, if confirmed, this finding would demonstrate that people with less positive self-perceptions have something to worry about, given that their partners see them relatively negatively. More broadly, significant accuracy in partner perceptions would show that love is not blind, and that perceptions in intimate relationships are influenced by objective social reality.

Importantly, both assumed similarity and the overall positivity of an individual's judgements were (separately) controlled for when computing the accuracy correlations. Murray and colleagues (1996a, 1996b) showed that people tend

to project their self-perceptions onto their partners, and see their partners as more similar to themselves than they really are. Thus, controlling for assumed similarity deals with the possibility that accuracy may be artificially inflated if assumed similarity is positivity correlated with actual similarity (Kenny & Acitelli, 2001).

A participant's tendency to be relatively positive or negative in their judgements overall could also potentially inflate accuracy correlations. Thus, the tendency to adopt rose-tinted glasses was controlled for in the current research, by using a participant's ratings in domains other than the one included in the accuracy computation. For example, in computing Partner A's accuracy in judging Partner B's Vitality/Attractiveness, Partner A's perceptions of Partner B's Warmth/Loyalty and Status/Resources were controlled for.

Turning to bias, an overall partner-serving bias was predicted. That is, partner ratings were expected to be more positive than self ratings overall. This prediction contrasts with the general self literature in which bias in perceiving others is almost always self-serving (see e.g., Taylor & Brown, 1988). However, partner-serving biases are a well-replicated finding in the close relationships literature. For example, Murray et al. (1996a, 1996b; Murray, Holmes, Dolderman et al., 2000; Murray, Holmes, & Griffin, 2000) consistently find that, at the mean level, partner ratings exceed self ratings. Presumably, intimate relationships function as a very strong in-group, so that positive partner judgements function to increase the perceiver's self-esteem rather than decrease it, as is typically the case when self feels s/he compares unfavourably to others (Taylor and Brown). However, the present study is the first to examine bias in judging partners using the Ideal Standards Scales. Thus, this study investigates whether partner-serving bias extends beyond general interpersonal

qualities to perceptions of other qualities which are important in mate evaluation processes (i.e., Vitality/Attractiveness and Status/Resources).

Both within-person and across-couple bias were examined in this study. It was expected that, at the within-individual level, participants would rate their partner more positively than they rated themselves. At the across-couple level, it was predicted that participants would be judged more positively by their partners than they judged themselves. For example, Bill would rate Mary's Vitality/Attractiveness more positively than Mary would rate her own Vitality/Attractiveness.

The consistency between a participant's ideal standards for a partner and their perceptions of their current partner was also measured. Previous research has shown that the smaller the gap between ideals and partner perceptions, the more positively the relationship is evaluated (e.g., L. Campbell et al., 2001; Fletcher et al., 1999). I predicted that people with more positive self-perceptions would be perceived as a better match to their partner's ideal standards. For example, the extent to which Bill thought that Mary met his ideal standards was expected to positively correlate with Mary's self-perceptions. Once again, this effect was expected to emerge most strongly in the domains of Vitality/Attractiveness and Status/Resources, for the reasons already outlined.

Finally, whether individual differences in bias and accuracy are related to partners' levels of depression was also investigated. However, no specific hypotheses were advanced partly because the existing literature and theory generate opposing predictions. First, arguments for a sadder but wiser effect predict that depression should be associated with greater accuracy (e.g., Lewinsohn et al., 1980). A contrasting argument posits that depression should be associated with less accuracy (e.g., J.D. Campbell & Fehr, 1990). If being closely attuned to relationship reality

gives people better opportunities to manage their relationships effectively, then the group who are most satisfied with their relationships would also be expected to be more accurate. Depression, and its close relative low self-esteem, are both associated with reports of low relationship satisfaction and outcomes (e.g., Fincham & Bradbury, 1993; Karney & Bradbury, 1997; Murray et al., 1996a, 1996b). Thus, on this basis, it would be expected that higher depression should be related to lower accuracy.

In summary, for Study 1, I predicted that:

1. Generally, Partner A's partner ratings would be more positive than Partner A's self ratings (a within-person bias).
2. Generally, Partner A's partner ratings would be more positive than Partner B's self ratings (across-couple bias).
3. People would be significantly accurate in judging their partner's Vitality/Attractiveness and Status/Resources, but would not be accurate in judging their partner's Warmth/Loyalty.
4. People with more positive self-perceptions would be judged as being a closer match to their partner's ideals. Once again, this effect was expected to emerge most strongly for the Vitality/Attractiveness and Status/Resources categories compared with Warmth/Loyalty.

Method

Participants

Participants in this study comprised 60 heterosexual couples. The mean age of the female participants was 21.88 years (*SD* = 4.61). The mean age of the male participants was 22.67 years (*SD* = 4.69). Of the sample, twenty-eight couples (46.7%) described themselves as dating and 32 couples (53.3%) described themselves as living together. The mean relationship length was 25.32 months (*SD* = 24.76).

Materials

Perceptions of partner. The Ideal Standards Scales (Fletcher et al., 1999) were used to measure partner perceptions. Prior research suggests these scales are reliable and valid when used to assess partner perceptions (Fletcher et al., 2000a), and that the three scales measure the three most important categories of perceptions in mate evaluation: Vitality/Attractiveness (e.g., sexy), Warmth/Loyalty (e.g., kind), and Status/Resources (e.g., successful, achieved or potential to achieve) (Fletcher et al., 1999). The addition of the words *achieved or potential to achieve* following each item of the Status/Resources scale is a change from the original scale and makes the scale more appropriate for use with students who are generally lacking Status/Resources. Each item (17 in total) was answered on a 7-point Likert scale ranging from *very inaccurate* (1) to *very accurate* (7). Participants were instructed to rate the extent to which each item accurately described their current partner. All items within each scale were then averaged, with higher scores representing more positive partner perceptions. For female participants, Cronbach's alphas were .87 for the Warmth/Loyalty scale, .79 for the Vitality/Attractiveness scale, and .88 for the Status/Resources scale. For males, the alphas were .92 for the Warmth/Loyalty scale,

.80 for the Vitality/Attractiveness scale, and .85 for the Status/Resources scale. Thus, the internal reliabilities were excellent.

Ideal/Perceptions Consistency. Participants compared their current partner relative to their ideal partner based on the same attributes. Each item was answered on a 7-point Likert scale ranging from *poor match to my ideal* (1) to *completely matches my ideal* (7). Participants were asked to rate the extent to which each factor in their current partner matched their expectations in terms of their ideal partner. Once again, all items within each dimension were averaged. Low scores indicate that the respondent's partner is a poor match to the respondent's ideals and high scores indicate a good match. Fletcher et al.'s (1999) Ideal Scales have been used successfully to measure ideal/perceptions consistency in previous research (L. Campbell et al., 2001). In this study, Cronbach's alphas for female participants were .84 for the Warmth/Loyalty scale, .77 for the Vitality/Attractiveness scale, and .87 for the Status/Resources scale. For males, the alphas were .88 for the Warmth/Loyalty scale, .83 for the Vitality/Attractiveness scale, and .85 for the Status/Resources scale.

Self-perceptions. Using the same items, participants were asked to rate each item in terms of how accurately it described themselves. The anchors were *very inaccurate* (1) and *very accurate* (7). Scores were averaged to produce three separate scores, one for each domain. Low average scores indicate negative self-perceptions and high scores indicate positive self-perceptions. For female participants, Cronbach's alphas were .82 for the Warmth/Loyalty scale, .80 for the Vitality/Attractiveness scale, and .85 for the Status/Resources scale. For males, the alphas were .83 for the

Warmth/Loyalty scale, .73 for the Vitality/Attractiveness scale, and .75 for the Status/Resources scale.

Depression. Depression was measured using the widely employed 21-item Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979). This scale measures a comprehensive range of the cognitive (e.g., suicidal ideation), affective (e.g., sadness), and behavioural (e.g., weight loss) symptoms of depression. For each item, participants were asked to circle one of four statements based on which statement best described how they had been feeling in the past week. Each statement carries a score from zero to three. Thus, the possible range of scores is 0-63 with high scores indicating severe depression. In this study, Cronbach's alphas were .81 for men and .83 for women.

Procedure

The materials were administered as part of a larger study which participants completed individually.[3] Both members of participating couples came to the laboratory together. After receiving verbal instructions, each individual was escorted to a private room to prevent communication between partners during the study. Once consent was obtained, participants were given the set of questionnaires to complete, including all materials and a background information form which asked participants to report their gender, age, relationship status, and relationship length. Written instructions were provided to ensure that the forms were filled out correctly. Upon completion of the study, participants were thanked and paid $10.

[3] A behavioural observation was conducted (after participants completed the set of questionnaires) which is not discussed here.

Results

Table 2
Means and Standard Deviations of Major Variables for Couples

	Men		Women	
Variable	*M*	*SD*	*M*	*SD*
Warmth/Loyalty				
Self ratings	5.60	0.89	5.88	0.74
Partner ratings	6.01	0.89	6.12	0.75
Ideal/Perceptions Consistency	5.93	0.89	6.16	0.70
Vitality/Attractiveness				
Self ratings	4.73	0.86	4.77	0.89
Partner ratings	5.36	0.81	5.60	0.83
Ideal/Perceptions Consistency	5.31	0.95	5.79	0.77
Status/Resources				
Self ratings	5.03	0.99	4.97	0.98
Partner ratings	5.23	1.07	5.19	1.14
Ideal/Perceptions Consistency	5.49	1.15	5.49	1.08
Depression				
Self ratings	0.28	0.24	0.38	0.26

Note. Means and standard deviations are expressed in terms of scores on a 7-point scale. $N = 120$ (Study 1).

Bias in Partner Judgements

The means and standard deviations for all scales are reported in Table 2. Three 2 (sex of perceiver) × 2 (perceivers' self-perceptions/perceivers' partner perceptions) repeated measures ANOVAs were conducted to measure within-person bias, for self ratings vs. partner ratings, specifically for each category of ideal standards. There were significant main effects of self ratings vs. partner ratings for all ideal categories: Warmth/Loyalty $F(1, 59) = 15.21$, $p < .01$; Vitality/Attractiveness $F(1, 59) = 57.68$, p

< .01; and Status/Resources $F(1, 59) = 5.83$, $p < .05$. As predicted, partner ratings significantly exceeded self ratings on all three scales (Warmth/Loyalty: Self $M = 5.74$, Partner $M = 6.04$; Vitality/Attractiveness: Self $M = 4.75$, Partner $M = 5.48$; Status/Resources: Self $M = 5.00$, Partner $M = 5.21$). There were no significant main or interaction effects for sex. Thus, as predicted, both male and female participants rated their partners more positively than they rated themselves on all three ideal categories (partner-serving bias).

In the same fashion, three 2 (sex of perceiver) × 2 (perceivers' partner perceptions/perceivers' self-perceptions) repeated measures ANOVAs were conducted to measure across-couple bias. Because the self and partner ratings represent exactly the same data as in the preceding analysis, identical means and main effects for self ratings vs. partner ratings must be produced. However, it is quite possible for this analysis to reveal significant main effects for sex of perceiver or a significant interaction. This was not the case, as both effects were non-significant (Fs < 1). Taken together, these analyses show that regardless of whether within- or across-partner bias was calculated, both men and women were equally prone to partner-serving bias.

Next, I investigated whether bias varied as a function of depression. It was predicted that depression and partner-serving bias would be negatively correlated. First, each individual's self ratings on all three domains were summed to create a single average self rating. This procedure was repeated using partner ratings to create an average partner rating for each individual. Residuals were calculated (for each individual) to measure the amount of positive or negative bias, in two separate ways, to assess within-person and across-couple bias. For example, a participant's within-person bias was calculated by regressing their partner perceptions onto their self-

perceptions and saving the residual. These coefficients (residual regression scores) indicate whether each participant was more or less positively biased than the overall sample. A coefficient of zero would mean that the individual was biased according to the sample mean. In this case, the individual would be somewhat positively biased since the sample, on average, displayed partner-serving bias. A positive coefficient for a given individual would mean that the individual was more positively biased than the sample overall. A negative coefficient for a given individual would mean that the individual was less positively biased than the sample overall.

Table 3
Relationship Between Bias and Depression: Correlations

	Men		Women	
	Within-Person Bias	Across-Couple Bias	Within-Person Bias	Across-Couple Bias
Female depression	-0.11	-0.20†	-0.19†	-0.08
Male depression	-0.15	-0.42**	-0.41**	-0.13

†$p < .10$. * $p < .05$. **$p < .01$.

Next, these coefficients were correlated with depression scores. The results can be seen in Table 3. Depression was significantly positively correlated with bias in two of the four analyses performed. As predicted, people who were more depressed were less positively biased in judging their partners. Moreover, as predicted, participants were less positively biased in judging partners who were more depressed. However, these effects were both more strongly related to male depression than female depression.

Accuracy of Partner Perceptions

Table 4
Accuracy of Partner Perceptions

	Men		Women	
Variable	Ideal/Perceptions Consistency	Partner Perceptions	Ideal/Perceptions Consistency	Partner Perceptions
Warmth/Loyalty	0.21	0.15	0.25†	0.12
Vitality/Attractiveness	0.16	0.13	0.39**	0.36**
Status/Resources	0.40**	0.30*	0.39**	0.41**

†$p < .10$. * $p < .05$. ** $p < .01$.

I predicted that participants would produce significant accuracy in judging their partner's Vitality/Attractiveness and Status/Resources, but would not be accurate in judging their partner's Warmth/Loyalty. Accuracy was measured by correlating Partner A's perceptions of Partner B with Partner B's self-perceptions. Consistent with my hypotheses, women showed significant levels of accuracy in judging both their partner's Vitality/Attractiveness and Status/Resources (see Table 4). As expected, men were also significantly accurate in judging their partner's Status/Resources; however, against predictions, men were not significantly accurate in judging their partner's Vitality/Attractiveness. Importantly, these results also demonstrate that people with less positive perceptions of their own mate value were judged less positively by their mates.

In addition to the direct measure of partner perceptions, participants were also asked how well their current partner matched their own ideal standards for a partner. As predicted, individuals were more prone to perceive their partner as a poor match to their ideals when *their partner* had less positive self-perceptions. As predicted, this

effect was significant for Vitality/Attractiveness (female perceivers only) and Status/Resources (both male and female perceivers), but not for Warmth/Loyalty (see Table 4).

Table 5
Accuracy of Partner Perceptions Controlling for Assumed Similarity and Positivity

	Men		Women	
Variable	Ideal/Perceptions Consistency	Partner Perceptions	Ideal/Perceptions Consistency	Partner Perceptions
Warmth/Loyalty	0.19 (0.26*)	0.11 (0.19)	0.24† (0.20)	0.09 (0.05)
Vitality/Attractiveness	0.09 (0.19)	0.05 (0.23†)	0.37** (0.39**)	0.35**(0.29*)
Status/Resources	0.41** (0.45**)	0.29*(0.33*)	0.39** (0.41**)	0.40**(0.42**)

Note. Correlations after controlling for positivity appear in parentheses.
†$p < .10$. * $p < .05$. **$p < .01$.

Two processes may have artificially inflated these correlations, giving the illusion of significant accuracy: assumed similarity and the tendency to make positive or negative judgements generally. To investigate the effects of assumed similarity, the accuracy correlations were re-calculated controlling for a participant's domain-specific self ratings. The results are shown in Table 5. All significant results remained significant after controlling for assumed similarity and no previously non-significant results became significant, with one exception. To investigate the impact of the general tendency to adopt rose-tinted glasses, the original accuracy correlations were also re-calculated controlling for Partner A's ratings of Partner B on the remaining two domains. Once again, all significant results remained significant, and no previously non-significant results became significant.

In summary, these results provide evidence that people with less positive self-perceptions have something to worry about - to some extent, their partners see them negatively.

Accuracy and Depression

A median split was used to create high and low depression groups based on depression scores (Women: *Median* =.34; Men: *Median* = .24). As can be seen in Table 6, women who had high depression scores attained significant accuracy in judging their partner's Vitality/Attractiveness. Men with high depression scores and women with low depression scores attained significant accuracy in judging their partner's Status/Resources. No significant correlations emerged for men who had high depression scores. Thus, these results do not show clear trends in the link between depression and accuracy. Finally, because depression was significantly correlated across couples (r = .35) the accuracy correlations were re-calculated controlling for the depression level of the person being perceived. The results did not change.

Table 6
Accuracy of Partner Perceptions as a Function of the Perceiver's Depression: Correlations Between Ratings of Partner and Partner's Self Ratings

	Men			Women		
	Warmth/ Loyalty	Vitality/ Attractiveness	Status/ Resources	Warmth/ Loyalty	Vitality/ Attractiveness	Status/ Resources
Low Depression	0.13 (0.18)	0.22 (0.22)	0.19 (0.26)	0.23 (0.21)	0.21 (0.21)	0.52** (0.52**)
High Depression	0.04 (0.08)	0.12 (0.05)	0.49**(0.60**)	-0.06 (-0.10)	0.48** (0.40*)	0.28 (0.29)

†$p < .10$. * $p < .05$. ** $p < .01$.

Discussion

This study provides evidence that, as predicted, people tend to be both positively biased and (to some extent) accurate in their relationship perceptions. Moreover, these results also provide preliminary evidence that individual differences in bias are related to levels of depression. Both within individuals and across couples, bias was partner-serving overall, and identical findings were observed across all three ideal categories (Warmth/Loyalty, Vitality/Attractiveness, and Status/Resources). However, people who were more depressed generally judged their partners in a less positively biased fashion, and participants were less positively biased in judging partners who were more depressed (although these effects were more strongly related to male depression).

As predicted, participants were significantly accurate in judging their partner's Vitality/Attractiveness (female perceivers only) and Status/Resources (both male and female perceivers). Participants were not significantly accurate in judging their partner's Warmth/Loyalty, as predicted. Thus, accuracy was produced for judgements of relatively objective and observable qualities only. Unfortunately, the results of Study 1 do not clearly show how depression is related to the accuracy of partner judgements, if at all.

Bias in Partner Judgements

The results of this study suggest that bias functions differently in intimate relationships than in other social relationships. Outside intimate dyads, people are generally reluctant to compare themselves unfavourably to others, and unfavourable social comparisons are related to decreases in self-esteem (Taylor & Brown, 1988). However, partner-serving (positive) bias was consistently observed in this study, and

was more pronounced in people with lower depression (higher self-esteem). The most plausible explanation for these findings is that judging partners more positively than self does not have negative consequences for self because intimate relationships function as strong in-groups.

The findings that people with higher levels of depression were generally less positively biased in judging their partners is inconsistent with Murray et al.'s (e.g., 2002; Murray, Holmes, et al., 2001) claims that people with low self-esteem (high depression) have miscalibrated Sociometers. If anything, the bias data indicates that people with high self-esteem tend to suffer from a certain amount of miscalibration. The findings that people with higher levels of depression (lower self-esteem) generally elicited less positively biased appraisals from their partners indicates that their worries and insecurities were somewhat justified.

The emergence of a partner effect (i.e., that male depression was correlated with female bias) is especially significant in that partner effects highlight the role of social reality in relationship processes. It is unlikely that partner effects would emerge if judgements were typically out of touch with interpersonal reality.

Accuracy of Partner Judgements

Investigating accuracy alongside bias extends previous research which has focussed on bias or has failed to distinguish adequately between the two constructs. These findings suggest that research which has solely measured judgements of Warmth/Loyalty may have underestimated accuracy in intimate relationships. These results demonstrate that bias and accuracy operate relatively independently in intimate relationships. Moreover, both the direct measure of partner perceptions and the ideal/perceptions consistency data indicate that people with less positive self-

perceptions have something to worry about; they were perceived more negatively than people with more positive self-perceptions. In summary, partners were clearly not blinded by love.

Study 2

Study 2 (partly) replicates Murray et al. (1998) in that self-perceptions were manipulated, and the effect of the manipulation on reflected appraisals and partner perceptions was investigated. However, there are some critical differences between this design and Murray et al. In this study, participants were randomly assigned to one of four experimental groups which determined whether their self-perceptions would be threatened or boosted, and which domain of perceptions would be manipulated (Vitality/Attractiveness or Status/Resources). The third Ideal Standards category, Warmth/Loyalty, was a constant (non-manipulated) variable across groups. This design made it possible to assess whether the effects of the manipulation were domain-specific, as intended, or whether the manipulation had more generalized effects, possibly indicating that a mood altering mechanism was leading to more/less positive ratings overall.

The experiment was designed so that participants would not be aware that their self-perceptions were being temporarily altered. This precaution was taken to avoid demand characteristics. Participants were invited to take place in what was purportedly two unrelated studies. They were informed that the first study (part 1) was about self-perceptions and the second study (part 2) was about intimate relationships. Precautions were taken so that participants did not become suspicious about the links between part 1 and part 2. For example, different researchers administered each part and no contact between researchers was observed by participants. Moreover, each part took place in a different venue, and used differently formatted materials. In part 1, self-esteem was measured so moderating hypotheses could be tested, and then participants filled out a questionnaire which was designed to temporarily alter their self-perceptions. In part 2, participants completed the dependent measures (partner

perceptions and reflected appraisals), followed by self-perceptions scales which served as a manipulation check, and a relationship satisfaction scale.[4]

In general, I expected that the results of this study would replicate Murray et al.'s (1998) findings. Specifically, I predicted that self-esteem would moderate the effects of the threat vs. boost. I expected that people with low self-esteem would report less positive self-perceptions, reflected appraisals, and partner perceptions in the threat condition compared with the boost condition. As predicted by the Dependency Regulation Model, I expected that people with low self-esteem would generalize from self-doubt to relationship doubt, leading them to devalue their partner on the basis that they felt less accepted and less confident in the relationship.

In contrast, I predicted that people with high self-esteem would be relatively immune to the self-threat. Moreover, they were expected to fend off any self-doubt the threat did cause by using their relationship as a self-affirmational resource, that is, comforting themselves with the knowledge that their partner regards them highly. For people with high self-esteem, self-perceptions, reflected appraisals, and partner perceptions were expected to be similar (or higher) in the threat condition compared with the boost condition.

The manipulation questionnaires were designed to alter self-perceptions in one ideal category only. I expected that the predicted effects would be domain-specific. Since Warmth/Loyalty is probably the most central and important category of mate preferences (Fletcher et al., 1999), ratings of Warmth/Loyalty were controlled for to test whether the effects of the manipulation were domain-specific.

Relationship satisfaction was also separately controlled for when testing the hypotheses. Importantly, if self-esteem still significantly moderated the effects of the

[4] Other scales were administered but are not reported here.

manipulation after controlling for relationship satisfaction then this would indicate that the moderating effect was not due to people with low self-esteem having poorer quality intimate relationships than people with high self-esteem.

In summary, I predicted that:

1. People with low self-esteem would report less positive ratings (self-perceptions, reflected appraisals, and partner perceptions) in the threat condition compared with the boost condition.
2. People with high self-esteem would report more positive (or similar) ratings (self-perceptions, reflected appraisals, and partner perceptions) in the threat condition compared with the boost condition.
3. The effects of the manipulation would be domain-specific. That is, Warmth/Loyalty ratings would not moderate the effect of the manipulation on the targeted ideal categories.

Method

Participants

One hundred and forty-nine University of Canterbury students participated in Study 2 (77 men and 72 women). Only people who were currently in an intimate (sexual) relationship were eligible to participate. The mean age of the sample was 22.73 years (*SD* = 5.67). Of the sample, 95 individuals were dating, 35 were living together, and 19 were married. The mean relationship length was 27.12 months (*SD* = 40.16). Two female participants and four male participants were in same-sex relationships. Twenty participants (13.4%) were excluded from further analysis because of suspicion about links between part 1 and part 2, leaving a sample of 129.

Materials

Self-esteem. Self-esteem was measured using the 10-item Rosenberg (1965) self-esteem scale. This scale measures global feelings of self-worth (e.g., I feel that I am a person of worth, at least on an equal basis with others). Participants rated each item on a 4-point Likert scale with anchors of *strongly agree* (1) and *strongly disagree* (4). Negative items were reverse scored. All items within the scale were then averaged so that higher scores represent higher (more positive) self-esteem. Cronbach's alpha was .88 in this study.

Self-perceptions manipulation. Participants wrote answers to six open-ended questions. Each question corresponded to one item of Fletcher et al.'s (1999) Ideals Scales.[5] However, none of the words used in the scales was repeated in the

[5] The Vitality/Attractiveness scale is a six item scale whereas the Status/Resources scale is five items long. An extra question was included in the Status/Resources manipulation questionnaires so that all questionnaires were of equal length.

manipulation questionnaires. Each manipulation questionnaire was pilot tested extensively. Question 1 of the Vitality/Attractiveness manipulations asked participants to describe in detail three aspects of their face that they liked (boost) or disliked most (threat) (item: *attractive appearance*). Question 2 asked the same question in reference to the body below the neck (item: *nice body*). In question 3, participants described three incidents in which they behaved in an extroverted (boost)/shy or withdrawn way (threat) (item: *outgoing*). In question 4, participants were asked to recall three situations in which they took risks and showed courage (boost)/failed to take risks and were timid (threat) (item: *adventurous*). In questions five and six, participants were asked to describe the three strongest (boost)/weakest (threat) features of their own ability to please a partner sexually (item: *good lover*) and three ways in which they are (boost)/are not (threat) sexually appealing to others (item: *sexy*).

The Status/Resources manipulations mainly involved getting participants to imagine themselves in future situations in which they either had ample Status/Resources or lacked Status/Resources. Question 1 of the Status/Resources manipulations asked participants to identify the three aspects of their current selves which most greatly facilitated (boost) or impeded (threat) their achievement (item: *successful*). In Questions 2, 3, 5, and 6, participants were presented with a hypothetical future situation and asked to provide three reasons why it could occur in their life. Question 2 related to their possession/ lack of a nice house, question 3 to financial security or lack thereof, and question 5 to having a good/undesirable job. Finally, question 4 asked participants to identify either why they have a well (boost) or under-developed (threat) dress sense. The full text of the manipulation questionnaires is included as Appendix A.

Mood scale. Each participant's current mood (e.g., happy, depressed, worried) was measured using a 13-item scale (Campbell, Wilson, Simpson, & Fletcher, 2002). Participants rated each item on a 7-point Likert scale with anchors of *not at all* (1) and *extremely* (7). The sum of scores for the positive items and the sum of scores for the negative items were correlated r = -.55. Thus, the negative items were reverse scored, and then scores were averaged so that high scores indicate positive current mood. Cronbach's alpha was .90 overall.

Self and partner perceptions. The measures of self and partner perceptions were identical to those used in Study 1. In this study, the self-perceptions measure served as a manipulation check. Scores were derived by taking the average of all items within each scale. Low scores indicate negative self or partner perceptions. High scores indicate positive self/partner perceptions. The internal reliabilities for the self-perceptions scales were Warmth/Loyalty α =.80, Vitality/Attractiveness α =.84, and Status/Resources α = .88, and for the partner perceptions scales they were Warmth/Loyalty α =.85, Vitality/Attractiveness α =.69, and Status/Resources α = .84.

Reflected appraisals. The reflected appraisals measure used in this study was also based on Fletcher et al.'s (1999) Ideal Standards Scales. Participants were instructed to rate each of the 17 items based on how they thought their partner would rate them. Participants responded to each item on a 7-point Likert scale anchored by *my partner does not believe about me* (1) to *my partner strongly believes about me* (7). All items within each scale were then averaged, with higher scores representing more positive reflected appraisals. Cronbach's alphas were .86 for the

Warmth/Loyalty scale, .81 for the Vitality/Attractiveness scale, and .85 for the Status/Resources scale.

Relationship Satisfaction. Relationship satisfaction was measured using the Perceived Relationship Quality Component scale (PRQC; Fletcher, Simpson, & Thomas, 2000b). The PRQC consists of 18 items, e.g., How satisfied are you with your relationship? How committed are you to your relationship? How intimate is your relationship? Each of six perceived relationship quality components is assessed by three questions, and each question is answered on a 7-point Likert scale anchored by *not at all* (1) and *extremely* (7). Instructions were to rate the current partner and relationship on each item. All items were then averaged, with higher scores representing higher relationship satisfaction. This scale is both reliable and valid (Fletcher et al., 2000b). The Cronbach's alpha in this study was .93.

Procedure

Participants were randomly assigned to one of four experimental conditions which determined whether their self-perceptions would be threatened or boosted, and which domain of self-perceptions would be targeted (Vitality/Attractiveness or Status/Resources). To avoid demand characteristics, participants were led to believe that they would participate in two unrelated studies (part 1 and part 2).

In part 1, participants completed (in order) the Rosenberg (1965) self-esteem scale, one version of the manipulation questionnaire, and the mood checklist. Participants were then directed to another location where they completed part 2 under the supervision of a different researcher. In part two, participants completed the dependent measures (partner perceptions then reflected appraisals), followed by the

self-perceptions scale which served as a manipulation check, and the relationship satisfaction scale which was not administered before the manipulation so as not to arouse suspicion.[6]

Finally, participants were probed for suspicion, debriefed, and thanked. Suspicion was assessed by six questions in a separate questionnaire, which was given to participants after they had completed the main questionnaires used in part 2. Each question was presented on a separate page and participants were instructed to answer each question before moving on to the next question. The first question was general (What do you think the purpose of the study you just participated in was?), and the questions gradually became more specific. The final two questions were: "Q5. Did it occur to you, *during Study 2*, that the first and second studies you participated in today were really one study?" "Q6. Did you think that the aim of the second study was to assess the extent to which the answers you gave in the first study would influence the answers you gave here?" Participants were instructed to answer yes to question six only if this thought consciously occurred to them *while* they were filling out the questionnaires for part 2. If participants answered yes to either question five or question six they were classified as suspicious and their data was not included in further analyses.

[6] Several other scales were administered but not reported on here.

Results

Table 1
Means and Standard Deviations of Major Variables

	Vitality/Attractiveness				Status/Resources			
	Boost		Threat		Boost		Threat	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Non-Manipulated								
Warmth/Loyalty								
Self ratings	5.84	0.72	5.89	0.70	5.81	0.89	5.52	0.79
Reflected appraisals	5.88	0.82	5.84	0.70	5.69	1.01	5.47	0.93
Partner ratings	5.85	0.83	5.87	0.83	5.77	1.08	5.95	0.75
Manipulated								
Vitality/Attractiveness								
Self ratings	4.31	0.70	3.97	0.82	4.09	0.75	3.83	1.12
Reflected appraisals	5.73	0.65	5.33	0.78	5.50	0.80	5.22	1.06
Partner ratings	5.83	0.66	5.70	0.66	5.79	0.66	5.60	0.71
Status/Resources								
Self ratings	5.65	1.01	5.45	1.19	5.44	1.11	5.02	1.41
Reflected appraisals	5.68	1.00	5.45	1.10	5.57	0.94	5.11	1.33
Partner ratings	5.54	1.10	5.79	0.92	5.28	1.25	5.62	0.97

Note. Means and standard deviations are expressed in terms of scores on a 7-point scale. The sample sizes were: Boost Vitality/Attractiveness $N = 33$; Threat Vitality/Attractiveness; $N = 30$ Boost Status/Resources $N = 32$; Threat Status/Resources $N = 33$.

Analytic Strategy

In order to achieve maximum statistical power, dependent variables were created which combined the two threat conditions and the two boost conditions. For example, a self variable was created in which the score for each participant was simply his or her self rating for the domain on which they were manipulated (Vitality/Attractiveness or Status/Resources). New variables for reflected appraisals

and partner perceptions were created in the same way. Table 1 shows all the means and standard deviations for the dependent variables.

Manipulation Check

A 2 (boost/threat) × 2 (Vitality-Attractiveness/Status-Resources) × 2 (male/female) ANOVA was conducted on the self rating variable. There was a significant main effect for manipulation direction $F(1, 128) = 5.16$, $p < .05$. Participants in the boost condition reported significantly more positive self ratings ($M = 4.87$) than participants in the threat condition ($M = 4.45$). Thus, the manipulation was effective. There was also a significant main effect for ideal category (Vitality-Attractiveness/Status-Resources) $F(1, 128) = 39.68$, $p < .01$. Inspection of the means (Status/Resources: $M = 5.25$; Vitality/Attractiveness: $M = 4.08$) revealed that Status/Resources ratings tended to be higher than Vitality/Attractiveness ratings overall. There were no further significant main effects or interactions. Specifically, there was no main effect for gender and no significant interactions between gender and other variables in this analysis or in any of the following analyses; thus, gender is not discussed further.

Reflected Appraisals

As predicted, a 2 (boost/threat) × 2 (Vitality-Attractiveness/Status-Resources) ANOVA on the reflected appraisals variable revealed a significant main effect for boost vs. threat $F(1, 128) = 6.40$, $p < .05$. As predicted, those in the boost condition believed that their partner thought more positively about them ($M = 5.64$), than those in the threat condition ($M = 5.20$). There was no main effect for ideal category, and no interaction between ideal category and boost vs. threat (Fs < 1).

Partner Perceptions

A 2 (boost/threat) × 2 (Vitality-Attractiveness/Status-Resources) ANOVA on partner perceptions showed, against predictions, no significant main effect for this variable for boost vs. threat ($F < 1$). No other main effects or interactions were significant.

Alternative Explanations

Alternative explanations for these findings were explored by repeating all of the above analyses and entering in possible third variables as covariates. First, it was predicted that the reported effects would be domain-specific. Specifically, ratings of Warmth/Loyalty should not influence the results. Controlling for Warmth/Loyalty ratings provides a conservative test of domain specificity because the set of qualities that comprise the Warmth/Loyalty scale are the qualities which are most central to mate evaluation processes (Fletcher et al., 1999). An ANOVA was calculated on self ratings as previously, but self-perceived Warmth/Loyalty was entered as a covariate. The main effect for boost vs. threat remained significant $F(1, 128) = 4.76$, $p < .05$. The same analysis was performed on reflected appraisals (i.e., controlling for reflected appraisals of Warmth/Loyalty), and this revealed that the main effect for boost vs. threat also remained significant $F(1,128) = 5.96$, $p < .05$. Other analyses showed that no previously non-significant results became significant, including for partner perceptions.

The same covariance analyses were also calculated controlling for relationship satisfaction. The results remained unchanged. The significant main effects for boost vs. threat remained significant for both self-perceptions and reflected appraisals, and no previously non-significant results became significant.

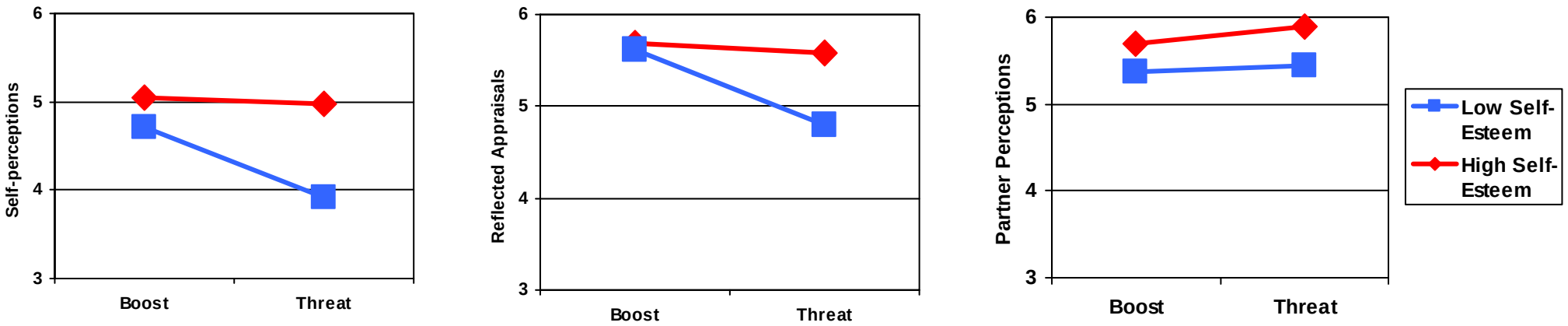
Moderating Analysis: Self-Esteem

It was predicted that self-esteem would moderate the main effects reported above. Specifically, people with low self-esteem were expected to report less positive self-perceptions, reflected appraisals, and partner perceptions in the threat condition compared with the boost condition. However, people with high self-esteem were predicted to either maintain or exhibit higher ratings in the threat condition. These hypotheses were tested using three 2 (boost/threat) × 2 (Vitality-Attractiveness/Status-Resources) × 2 (low self-esteem/high self-esteem) ANOVAs. Participants were classified as having high or low self-esteem by a median split on self-esteem (*Median* = 3.1 on a 4 point scale). As with the main effects, the ANOVAs confirmed the hypotheses for both self-perceptions and reflected appraisals but not for partner perceptions. Figure 1 shows the means which confirm the predicted pattern.

For self-perceptions, the interaction between boost vs. threat and self-esteem group was marginally significant $F(1, 128) = 3.35$, $p = .07$. For reflected appraisals, the effect was statistically significant $F(1, 128) = 4.52$, $p < .05$. Planned comparisons confirmed these results. For the high self-esteem group, the self ratings of those in the boost condition ($M = 5.06$) were not significantly different from the self ratings of those in the threat condition ($M = 4.93$) ($F < 1$). In contrast, for the low self-esteem group the self ratings of those in the boost condition ($M = 4.67$) were significantly more positive than the self ratings of those in the threat condition. ($M = 4.05$) $F(1,128) = 6.21$, $p < .05$. Moreover, for the high self-esteem group, the reflected appraisals of those in the boost condition ($M = 5.68$) were not significantly different from the reflected appraisals of those in the threat condition ($M = 5.58$) ($F < 1$). As predicted, for the low self-esteem group, the reflected appraisals of those in the boost condition ($M = 5.62$) were significantly more positive than the reflected appraisals of

Figure 1

Effect of Manipulating Self-Perceptions on Major Variables



those in the threat condition (M = 4.79) $F(1,128) = 12.24$, $p < .01$.

Alternative Explanations

As with the main effects, possible third variables were entered into ANOVAs as covariates to test the robustness of the moderating effect of self-esteem. Warmth/Loyalty ratings and relationship satisfaction ratings were entered separately as covariates. When self-perceived Warmth/Loyalty was controlled for, the interaction between self ratings and self-esteem *remained* marginally significant $F(1,128) = 3.24$, $p = .06$ The interaction between reflected appraisals and self-esteem remained strong and significant, and the interaction between partner perceptions and self-esteem remained non-significant. These results indicate that, as predicted, Warmth/Loyalty ratings did not moderate the effect of self-esteem. The manipulation produced an effect on the targeted ideal categories which did not spill over to Warmth/Loyalty.

Controlling for relationship satisfaction also had no effect on the interaction between self ratings and self-esteem which *remained* marginally significant $F(1,128) = 3.50$, $p = .06$. Once again, the interaction between reflected appraisals and self-esteem remained significant. These results indicate that, as predicted, relationship satisfaction did not moderate the interaction between boost vs. threat and self-esteem. Thus, the moderating effect of self-esteem was not produced as a function of people with lower self-esteem having lower quality relationships.

The relationship between self-esteem and partner ratings remained non-significant in all of these covariance analyses, indicating that changes in self-perceptions do not cause changes in partner perceptions, even when pre-existent levels of self-esteem are taken into account.

Discussion

As expected, the manipulation of self-perceptions had most impact on participants with low self-esteem. People with low self-esteem in the threat condition reported significantly less positive self-perceptions and reflected appraisals than those in the boost condition. In contrast, people with high self-esteem maintained their self-perceptions and reflected appraisals across conditions. Against predictions, no differences in partner perceptions were observed across conditions. Finally, as predicted, the significant effects were domain-specific, occurring only in the manipulated domain.

As anticipated, people with low self-esteem generalized from self-doubt (evident on the self-perceptions measure) to relationship doubt (evident on the reflected appraisals measure). This finding supports Murray et al.'s (1998) Dependency Regulation Model which predicts that changes in self-perceptions will lead to corresponding changes in reflected appraisals.

One obvious explanation for why people with high self-esteem reported similar reflected appraisals across conditions is that high self-esteem buffered the threat posed by the manipulation, rendering it ineffective (as indeed was the case). Consequently, the self-threat had no impact on the reflected appraisals of people with high self-esteem. An alternative explanation is that people with high self-esteem embellished their partner’s regard in the threat condition, making their reflected appraisals equivalent in the threat and boost conditions. Although there is evidence that people with high self-esteem may respond to a self-threat in this way (Murray et al., 1998; Murray, Bellavia, et al., 2001), the current data favours the simpler interpretation that the threat did not challenge people with high self-esteem sufficiently to cause changes in their reflected appraisals.

However, other explanations are possible for why ratings made by people with high self-esteem did not differ across conditions. For example, reflected appraisals were measured before self-perceptions. This feature was essential within this design to prevent participants suspecting that the manipulation questionnaire was intended to alter their self-perceptions. Thus, it is possible that the self-perceptions of people with high self-esteem became less positive in response to the manipulation, but the process of focusing on reflected appraisals restored their self-perceptions to initial levels. This would explain the similarity of their reflected appraisals across conditions. However, current mood was measured immediately after the manipulation and an ANOVA revealed a significant self-esteem group by boost vs. threat interaction for mood $F(1,128) = 4.00$, $p < .05$. People with low self-esteem reported lower mood in the threat condition ($M = 4.34$) compared with the boost condition ($M = 5.08$). People with high self-esteem reported virtually identical mood ratings across conditions (Boost: $M = 5.55$; Threat: $M = 5.48$). Therefore, this data supports the interpretation that people with high self-esteem were unmoved by the threat to self.

Murray et al.'s (1998) Dependency Regulation Model predicts that any changes in reflected appraisals should lead to corresponding changes in partner perceptions. Murray et al.'s studies supported this link in the Dependency Regulation Model for people with low self-esteem but not for people with high self-esteem. Possibly, effects on partner perceptions did not emerge in the current study because the manipulation was not powerful enough. The impact of the manipulation on people with low self-esteem was certainly sufficient to lead to relatively small but significant changes in self-perceptions and reflected appraisals. However, these changes may not have caused enough anxiety for their fears of rejection to be sufficiently activated.

Murray et al. (1998) demonstrated that self-esteem moderates the effect of threats/boosts to self on reflected appraisals and partner perceptions of *interpersonal qualities*. The current study extends this work by showing that self-esteem moderates the effect of manipulating self-perceived Vitality/Attractiveness or Status/Resources on self-perceptions and reflected appraisals. Importantly, the manipulations had an effect on the targeted ideal categories only. For people with low self-esteem, self-doubts in one domain were associated with relationship-related doubts in the same domain, but these doubts did not extend to the domain of Warmth/Loyalty. This study confirmed that the three categories of perceptions that comprise Fletcher et al.'s (1999) Ideal Standards Model operate at least partly independently. Thus, people with low self-esteem do not necessarily (and unrealistically) generalize their imperfections in a particular domain of mate value to other domains.

General Discussion

The results of the current research were generally as predicted for both studies. These two studies, taken together, demonstrate that individual differences in relationship-related perceptions are associated with self-esteem/depression. Importantly, the current research showed that people with low self-esteem do not tend to be out of touch with relationship reality. Their insecurities were, to some extent, realistic. Moreover, this research showed that mate value is cognitively represented in a domain-specific fashion; these findings highlight the need to distinguish between domain-specific and domain-general representations in relationship cognition.

In Study 1, participants tended to be both positively biased and reasonably accurate in judging their partners, that is, bias and accuracy operated relatively independently. Accuracy was related to the types of qualities judged, with greater accuracy associated with judging more observable and behavioural qualities. Generally, people who were more depressed were less positively biased in judging their partners, and were judged by their partners in a less positively biased fashion. However, accuracy was not strongly related to the perceiver's depression.

In Study 2, self-esteem (a close relative of depression) moderated the effect of a threat to self on self-perceived mate value and reflected appraisals. People with low self-esteem (but not those with high self-esteem) reported less positive self-perceptions and reflected appraisals following a threat to self than after a boost to self. As expected, Warmth/Loyalty judgements, which were not manipulated, were not influenced by the manipulations.

I first discuss the results of the current research in terms of the Dependency Regulation Model. Second, I discuss the results in terms of Sociometer Theory. In the

third section, I discuss the results with respect to the Ideal Standards Model. Fourth, I cover the limitations of this research.

Dependency Regulation Model

The Dependency Regulation Model posits that self-perceptions determine beliefs about how partners perceive self, which in turn cause partner perceptions to be more positive or more negative. The current research provides some support for the Dependency Regulation Model (as proposed by Murray and her colleagues, 1998) but indicates that several modifications may be necessary.

Findings Supporting the Dependency Regulation Model

Two major findings supported the Dependency Regulation Model. First, Study 2 showed that altering self-perceptions had a corresponding effect on reflected appraisals. That is, participants expected that their partners would see them as they perceived themselves (an expectation which Study 1 showed is realistic to some extent). This effect was not observed for people with high self-esteem, presumably because their self-perceptions were not significantly altered by the manipulation. Second, participants who were more depressed were generally less positively biased in judging their partners (although this effect was more strongly related to male depression) (Study 1).

Findings Inconsistent with the Dependency Regulation Model

According to the Dependency Regulation Model, altering self-perceptions should have also led to corresponding changes in partner perceptions. This effect was not evident in Study 2. Moreover, previous research on the Dependency Regulation

Model has not consistently found this effect (Murray et al. 1998; Murray, Bellavia et al., 2001), suggesting that changes in self-perceptions may not typically cause changes in partner perceptions.

Murray, Holmes, and Griffin (2000) have shown that people with low self-esteem (but not those with high self-esteem) are negatively biased in their reflected appraisals of interpersonal qualities. They argued that this effect is produced because people with low self-esteem (incorrectly) assume that their partners will see them as they perceive themselves (a type of assumed similarity). In contrast, Study 1 demonstrated (in three different ways) that how an individual is actually perceived by their partner depends on the individual's self-esteem.

First, the accuracy findings in Study 1 indicate that people with less positive self-perceptions were judged relatively negatively by their partners (at least in certain domains). Thus, if people with less positive self-perceptions are realistic then they should report less positive reflected appraisals than people with more positive self-perceptions. Because Murray et al. focus on bias (and mostly ignore accuracy effects), their research has generally demonstrated that people with low self-esteem incorrectly believe that their partners view them negatively.

Second, Partner A's self-perceptions were positively related to Partner B's ideal/partner consistency judgements (again, in certain domains). Participants judged partners who had less positive self-perceptions as a poorer match to their own ideals. Previous research has shown that more marked ideal/partner discrepancies are related to poorer relationship quality and an increased incidence of relationship break-up (e.g., Campbell et al., 2001; Fletcher et al., 2000a). Thus, people with negative self-perceptions have cause for concern.

Third, participants were less positively biased in judging partners who were more depressed (although this effect was more strongly related to male depression). Murray et al.'s research has shown that positively biased partner perceptions are associated with higher relationship satisfaction both concurrently (1996a, 1996b) and longitudinally (1996b). Thus, these findings may help to account for why people who are more depressed are generally less satisfied with their relationships.

Findings Suggesting the Dependency Regulation Model Requires Elaboration

The Dependency Regulation Model implicitly predicts global effects. However, the current research showed that mate value is cognitively represented in terms of three somewhat independent domains (Warmth/Loyalty, Vitality/Attractiveness, and Status Resources). Although an individual's global self-esteem predicted whether their self-perceptions would be influenced by the Study 2 manipulations, participants altered their self-perceived mate value and reflected appraisals in the manipulated domains only. Ratings of Warmth/Loyalty, the most central category of mate ideal standards (Fletcher et al., 1999), were not manipulated and were not significantly different across conditions. The domain specificity observed in this study has implications for how self-perceived mate value and other relationship-related perceptions are conceptualized. I will return to this point in the section on the Ideal Standards Model.

Summary

The Dependency Regulation Model tells part of the story but not the whole story. People who are more depressed, or have more negative self-perceived mate value, are not as out of touch with relationship reality as Murray et al.'s (1998) model

predicts. This is partly because the model fails to take into account adequately the distinction between bias and accuracy, and partly because of domain specificity in mate value categories. I shall now discuss the findings of the current research in terms of Sociometer Theory.

Sociometer Theory

Findings Supporting Sociometer Theory

The current research provides general support for Sociometer Theory, although neither study directly tested the theory. Sociometer Theory states that self-esteem is based on how much others value having relationships with self (Leary et al., 1995). Study 1 supported this central tenet in that self-perceptions and partner's perceptions of self were significantly positively correlated (at least in certain domains). However, conclusions about the causal influences involved cannot be drawn based on Study 1.

Evidence for partner effects in this (and previous) research supports the role of social feedback in determining self-perceptions, providing general support for Sociometer Theory. Partner effects demonstrate that individuals take on board (sometimes subtle) cues from their social world, and that this information shapes how they see themselves and their relationships with other people. A nice example of a partner effect, cited earlier, is L. Campbell et al.'s (2001) finding that individuals base their relationship quality evaluations partly on how well they meet *their partner's* ideal standards. This finding indicates that people receive cues from their partners regarding how consistent self is with partner's ideals. People then use this information, in addition to their own feelings about their partner, to judge the state of their relationship. The partner effect for bias found in Study 1 adds to the growing

number of partner effects found in intimate relationships research (e.g., Murray, Holmes, & Griffin, 2000).

None of the results of the current research were inconsistent with Sociometer Theory. However, some of the findings highlight aspects of Sociometer Theory which are unclear or need elaboration. I discuss these results next.

Findings Suggesting Sociometer Theory Requires Elaboration

Although most of the literature on Sociometer Theory argues for a single, global Sociometer, Kirkpatrick and Ellis (2001) convincingly argued for the existence of multiple, domain-specific Sociometers. For example, specific Sociometers are postulated for intimate relationships, sibling relationships, and friendships. The current research supports their position. Moreover, Kirkpatrick and Ellis's viewpoint is consistent with current trends in social-cognitive research, and research informed by evolutionary theory, that distinguish between domain-specific and domain-general mechanisms (e.g., Gutierres, Kenrick, & Partch, 1999; Tooby & Cosmides, 1992). Future research could examine whether reflected and actual appraisals influence self-perceptions in a domain-specific or global fashion. If the links are domain-specific this would strengthen the case for multiple Sociometers. Another area of Sociometer Theory which needs further research is the distinction between state and trait self-esteem. The current research suggests that this distinction is important.

Sociometer Theory focuses on state self-esteem, and is weak in explaining how people develop chronically low self-esteem. According to Sociometer Theory, negative state self-esteem should be temporary because, when people detect a decline in their relational value, they are prompted to commence self-presentational efforts that will make them more attractive to others. Consequently, self-esteem is always

predicted to improve. Leary (2001) argued that people with lower trait self-esteem have had a higher proportion of negative interpersonal experiences, and that they become overly sensitive to signs of rejection. The mechanisms which maintain this oversensitivity are not part of Sociometer Theory.

Murray et al. (2002; Murray, Holmes, et al., 2001) contend that people with low trait self-esteem possess miscalibrated Sociometers. As discussed in the introduction, this claim is made in spite of their own evidence that people with high self-esteem have positively biased partner perceptions. The current research refutes the argument that lower self-esteem is associated with having a more poorly calibrated Sociometer. Replicating Murray et al.'s (e.g., 1996a, 1996b) findings, people who were less depressed (i.e., had higher self-esteem) were more positively biased in judging their partners. Moreover, there was no evidence that people with lower depression were more accurate in judging their partners. Although these results were based on partner perceptions and not perceived reflected appraisals (when lower self-esteem/higher depression may be related to greater bias), the results are inconsistent with Murray et al.'s (e.g., 1996a, 1996b; Murray, Holmes, & Griffin, 2000) implicit argument that lower self-esteem is related to higher levels of bias and inaccuracy. Murray, Holmes, and Griffin found that people with less positive self-perceptions are more negatively biased in their reflected appraisals of interpersonal qualities (i.e., Warmth/Loyalty). However, future research could examine the relationship between self-esteem and bias for reflected appraisals of Vitality/Attractiveness and Status/Resources.

In order to further explore the relationship between self-esteem and the accuracy of relationship-related judgements, longitudinal research could be conducted to examine whether people with low vs. high self-esteem more accurately predict future events in their relationships. Moreover, investigating whether negatively biased

reflected appraisals are a cause or consequence of low trait self-esteem may help explain how state and trait self-esteem are related. Finally, a follow-up to Study 2 could be designed to test Sociometer Theory directly. Sociometer Theory predicts that when an individual thinks their relational value has declined, they commence making themselves more attractive. An extension to Study 2 could investigate whether people engage in self-enhancing behaviour following a threat to their self-perceived mate value.

Summary

Although the current research did not directly test Sociometer Theory, this research provides general support for the theory because it demonstrates that social reality is important in intimate relationships. However, Sociometer Theory could profitably be expanded by explaining the links between state and trait self-esteem, and incorporating domain specificity. Finally, this research and my theoretical arguments render dubious Murray et al.'s (2002; Murray, Holmes, et al., 2001) claim that people with low trait self-esteem possess miscalibrated Sociometers.

Ideal Standards Model

Findings Supporting the Ideal Standards Model

The Ideal Standards Model posits that a) three categories of qualities are important to people in potential mates (Warmth/Loyalty, Vitality/Attractiveness, and Status/Resources), and b) ideal standards are partly based on relevant self-perceptions (Fletcher et al., 1999).

Two major findings provide support for the Ideal Standards Model. First, as discussed, altering self-perceptions influenced reflected appraisals in the manipulated domains only. Unlike the Dependency Regulation Model and Sociometer Theory, the Ideal Standards Model predicts domain-specific effects. Previous research has found that, although there are significant correlations between judgements across ideal categories, the three ideal categories are relatively independent (L. Campbell et al. 2001; Fletcher et al., 1999, 2000a). This research provides additional evidence that the three ideal domains operate independently.

Second, the Ideal Standards Model predicts that there will be differences in the accuracy of partner judgements across ideal categories, but positive bias will be observed for all ideal categories. Indeed, as expected, accuracy in partner judgements depended on the subjectivity/objectivity of the qualities self was asked to judge. However, as expected, participants were positively biased in judging their partners across all ideal categories. Previous research has shown that positive bias in judging partners is most strongly associated with judging qualities which are highly relevant in intimate relationship contexts (Swann et al., 2002). By definition, the Ideal Standards Model consists of qualities which are of high importance in intimate relationships. This explains why positive bias was found across ideal categories.

None of the findings from the current studies were inconsistent with the Ideal Standards Model or indicate that the model needs revision. However, my findings suggest that the tripartite structure of ideals extends to many different types of relationship-relevant perceptions, and is not confined to ideal standards. I turn to this point next.

Findings Suggesting the Ideal Standards Model Requires Elaboration

The current research suggests that self-perceived mate value, reflected appraisals, and partner perceptions may share the same tripartite structure as ideal standards. All related scales were internally reliable, accuracy differed across ideal categories in the predicted fashion, and manipulating self-perceptions had a domain-specific effect on reflected appraisals. Thus, the Ideal Standards Model may have broader relevance than its name implies. There is growing empirical evidence (e.g., Fletcher et al., 2000a; Kollermann, 2003) that self-perceived mate value, reflected appraisals, partner perceptions, and ideal standards share the same tripartite structure. Moreover, this evidence is consistent with an evolutionary approach which predicts that a) characteristics which are strong indicators of reproductive fitness will be desired in a mate, and b) partners will be evaluated according to these characteristics (Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Simpson & Gangestad, 1992).

Summary

Using the Ideal Standards Scales in this research showed that the accuracy of partner judgements depends on the types of qualities judged. This finding illuminates the importance of studying a range of the qualities which are centrally important in intimate relationships, including attractiveness, sex appeal, and status, rather than focussing solely on general interpersonal qualities. Moreover, the domain specificity observed in Study 2 supports the Ideal Standards Model and suggests that its tripartite structure may reflect how various types of mate value perceptions (such as reflected appraisals) are cognitively represented.

Limitations and Caveats

This research has several limitations and caveats. In Study 2, the sample comprised individuals, not couples. Previous research has shown that people with higher self-esteem are more unconditional in their love and regard for others (Murray, Holmes, Bellavia, and Rose, 2000 cited in Murray, Bellavia, et al., 2001). If participants with higher self-esteem had partners who also had higher self-esteem, this could explain why those with high self-esteem did not report significantly different reflected appraisals across conditions. However, the most obvious reason why the manipulation failed to influence the reflected appraisals of high self-esteem participants is simply that the manipulation did not successfully alter their self-perceptions. Moreover, the results did not change when relationship satisfaction was controlled for, showing that the observed effects were not produced by differences in relationship quality across self-esteem groups.

Second, the effect of the manipulation in Study 2 was subtle. A more powerful manipulation may have produced different results. Finally, the design of Study 2 could have been improved by obtaining pre-test measures of ratings on the dependent measures (e.g., several weeks before the experiment). Pre- and post-manipulation ratings could then have been compared to determine whether participants' ratings on the dependent measures became more positive or more negative following the manipulation.

Conclusion

Study 1 showed how two factors influence bias and accuracy in judging partners 1) self-esteem/depression, and 2) the types of qualities people are asked to judge (relatively objective vs. relatively subjective). Consistent with the idea that

social reality is important in intimate relationships, Study 2 demonstrated that people with low self-esteem (to some extent) anticipate that they will be perceived by their partners the way they perceive themselves. Moreover, experiencing more negative self-perceptions in one domain did not cause people with low self-esteem to experience generalized insecurity regarding self and how self is perceived by partner (Study 2). People who are more depressed or have lower self-esteem may be more sensitive to signs of rejection, but they are not necessarily more out of touch with reality. The partner judgements of people who were more depressed were less positively biased than the judgements of people who were less depressed, and there was no evidence that being less depressed is associated with more accurate interpersonal judgements (Study 1).

Murray et al.'s (e.g., 2002; Murray, Holmes, & Griffin, 2000) arguments imply that people with low self-esteem need only to have more confidence in their partner's regard to improve the quality of their relationships. The current research demonstrates that this is unlikely to be the case. Even if people with low self-esteem were unbiased and completely accurate in their reflected appraisals, their fears would not be completely soothed. As predicted by the Dependency Regulation Model, the association between lower self-esteem and lower relationship quality is probably partly due to people with lower self-esteem underestimating their partner's regard, and judging their partners in a less positively biased fashion. However, the worries and insecurities that people with low self-esteem report are justified to some extent.

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Appendix A – Manipulation Questionnaires

Version A: Vitality/Attractiveness Threat

(1) Describe below THREE features of your own physical shape, weight, and appearance (from the neck down), that you dislike the most.

(2) Describe below THREE features of your face, that you dislike the most.

(3) Think back over the last year and describe (in detail) THREE vivid and clear cut examples, in which you behaved in a shy or withdrawn fashion.

(4) Think back over the last year and describe (in detail) THREE vivid and clear cut examples, in which you failed to take risks and behaved in a timid fashion.

(5) Describe below the THREE weakest features of your own ability to sexually please a partner.

(6) List THREE ways in which you aren't sexually appealing to other people.

Version B: Vitality/Attractiveness Boost

(1) Describe below THREE features of your own physical shape, weight, and appearance (from the neck down), that you like the most.

(2) Describe below THREE features of your face, that you like the most.

(3) Think back over the last year and describe (in detail) THREE vivid and clear cut examples, in which you behaved in an extroverted fashion.

(4) Think back over the last year and describe (in detail) THREE vivid and clear cut examples, in which you took risks and behaved in courageous fashion.

(5) Describe below the THREE strongest features of your own ability to sexually please a partner.

(6) List THREE ways in which you are sexually appealing to other people.

Version C: Status/Resources Threat

(1) Describe THREE features of your personality that really get in the way of you achieving your full potential.

(2) Imagine yourself in 10 years time living in a rented, sub-standard house (you don't own a house). Give THREE reasons why you could end up in this situation.

(3) Imagine yourself in 10 years time as being poor, with no bank balance, and little money to spend. Give THREE reasons why you could end up in this situation.

(4) Give THREE reasons why you don't dress well at times or have an underdeveloped dress sense.

(5) Imagine yourself in 10 years time in a poorly paid, low-status job. Give THREE reasons why you could end up in this situation.

(6) Imagine that in 10 years time you have achieved much less in your life than your current friends and classmates. Give THREE reasons why this could be the case.

Version D: Status/Resources Boost

(1) Describe THREE features of your personality that really contribute to you achieving your full potential.

(2) Imagine yourself in 10 years time living in a really nice home that you own (mortgage-free). Give THREE reasons why you could end up in this situation.

(3) Imagine yourself in 10 years time as being wealthy, with plenty of money in the bank, and plenty of money to spend. Give THREE reasons why you could end up in this situation.

(4) Give THREE reasons why you dress well or have a well-developed dress sense.

(5) Imagine yourself in 10 years time in an extremely well-paid, high-status job. Give THREE reasons why you could end up in this situation.

(6) Imagine that in 10 years time you have achieved much more in your life than your current friends and classmates. Give THREE reasons why this could be the case.